

# JetBox 9432-w

## Embedded VPN Router Computer: 1 WAN, 4 LAN, 4 Serial



- Intel IXP435 667MHz with Networking Processor to enhance routing and VPN performance
- Complete Layer3 routing support: OSPF, RIP, DVMRP, IPv6
- Full managed features with QoS, VLAN
- 4-port serial device server (DB37 connector), supporting TCP server/client and paired TCP modes
- Versatile interfaces of USB, DIO, CF/ SD card slot
- Linux ready platform with Linux UI Webmin (optional), programmable
- Cross-platform applications
- DC 12~48V power input
- Fan-less, ruggedized industrial Design for anti-vibration, anti-shock, and -40~80°C wide temperature



## Overview

The stylish JetBox 9432 series is an industrial layer-3 router with Linux computing capability. It is a gateway to connect different network groups (Ethernet, fieldbus, serial or IO control) in a complex networking architecture and manage peripherals at the front-end site through its Linux programs. It is reliable (network redundancy, system recovery) and robust (passive cooling protected against the dusts and spills, shock & vibration resistance) to adopt in severe industrial vertical markets, such as transportation, substation, or hazardous environment.

### Embedded Linux Ready

Korenix is devoted to the Linux computing and benefits customers by providing the JetBox series with embedded Linux ready system and easy-to-use interface. Compared to general purpose Linux system, embedded Linux is performance-optimized for front-end industrial control.

### Linux Auto-run

The JetBox 9432 supports Korenix Auto-Run customization setting on SD card. The advanced software feature allows users to configure their own Linux commands once the system is booted. Users only need to store the commands on an "Auto-Run"

file and then store it on an SD card. This way they can automatically run specific configurations or run specific applications in the JetBox 9432 embedded computers making the industrial network management easier and more flexible.

### Serial device server

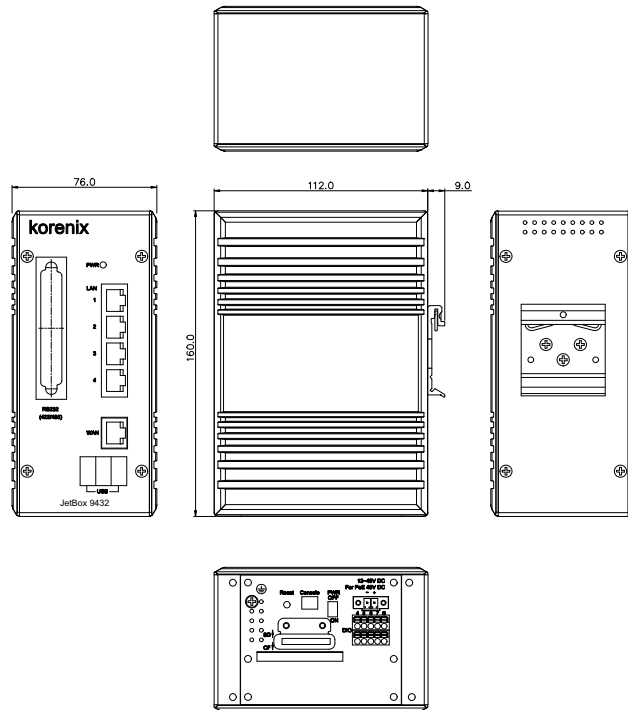
There are still a lot of device communication going through serial ports. JetBox 9432 also provides a perfect solution to manage serial devices via Ethernet in flexible ways, such as TCP server, TCP client, and paired TCP modes. JetBox 9432 creates a transparent gateway for the serial communication to Ethernet.

### VPN (Virtual Private Network)

Since computer networks are no longer closed systems and may consist of intranets, extranets, and Internet sites. The key remote access requirement of an enterprise organization can be provided using VPN to mitigate the risks of malicious intrusion and establish a mechanism of users' identity.

DMVPN (Dynamic Multipoint Virtual Private Network) is an enhancement of VPN and an effective solution for dynamic secure overlay networks.

## Dimensions (Unit = mm)



## Hardware Specifications

### System

#### Processor:

Intel Xscale IXP435 667MHz RISC-based  
Fanless

**System memory:** 128MB DDR2 RAM

**System flash:** 32MB

**Ethernet:** 10/100 Based-Tx RJ-45 connector x5

#### Storage:

SD card slot x1

CF card slot x1

**Serial port:** RS232/422/485 x4 (DB37 connector) with long distance termination switches (internal), default RS232

**USB:** USB 2.0 x3 (Host)

Supporting devices: USB flash, wireless dongle

**Digital IO:** 8 DIO (default 8 DI), DI or DO is defined by customers

**Console port:** 3-pin header (RS232 interface)

#### LED per port (on the port):

Link/Activity (Green on/Green blinking)

Full Duplex/Collision (Yellow on/ Yellow blinking)

#### LED per unit:

Power on/off x 1 (Green on/off)

**Power on/off switch x1**

**Reset button x 1**

**HW Watchdog timer:**

Generates a time-out system reset, 1sec

#### Power Supply:

DC 12~48V

**Power Consumption:** 25W

**OS support:** Embedded Linux 2.6.20

### Mechanical

**Construction:** Rugged Aluminum Alloy Chassis, IP31 protection

**Color:** Silver

**Mounting:** DIN-rail

**Dimension:** 160(H) x 112(W) x 72(D) mm

**Net weight:** 0.9kg

### Environment

#### Operating Temp:

-40 ~ 176°F(-40 ~ 80°C), 5 to 95% RH

**Storage Temp:** -40 ~ 176°F(-40 ~ 80°C), 5 to 95% RH

**Regulation:** FCC class A, CE, UL \*

EN55022 class A

EN55024

EN61000-3-2, 3

EN61000-4-2, 3, 4, 5, 6, 8, 11

IEC 60950

**Shock:** IEC60068-2-27 (50g peak acceleration)

**Vibration:** IEC60068-2-6 (5g/ 10~150Hz/operating)

**MTBF:** great than 200,000 hours@25°C

**Warranty:** 5 years

\*to be confirmed

Industrial  
PoE Switch

IP67/68  
Ethernet Switch

Rackmount  
Managed  
Switch

Gigabit Switch

Redundant  
Switch

Entry-Level  
Switch

Networking  
Computer

Communication  
Computer

Ethernet  
I/O Server

Serial Device  
Server

Media  
Converter

Multiport  
Serial Card

SFP Module

Din Rail  
Power Supply

## Feature Specifications

### Serial Interface

Serial service modes: TCP server, TCP client, Paired TCP

### WAN Interface

**Ethernet:** 10/100 Based-Tx RJ-45 connector x1, auto MDI/MDI-X

### LAN Interface

**Ethernet:** 10/100 Based-Tx RJ-45 connector x4, auto MDI/MDI-X

**Routing per VLAN:** Support port-based VLAN and IEEE802.1Q VLAN

**Quality of Service:** Four priority queues per port, 802.1p COS and IP Layer TOS/DiffServ

### Ethernet Performance

**Transfer Rate:** 14,880 pps for Ethernet port and 148,800 pps for fast Ethernet port

**Transfer Packet Size:** 64 bytes to 1522 bytes (with VLAN tag)

**MAC address:** 1K MAC address table

**Memory Buffer:** 512 Kbits

### IP Routing Service

**Static routing**

**Dynamic routing:** RIP, RIP-II, OSPF, ISIS\*, BGP\*, DVMRP, PPP

**PPPoE**

### IP Firewall/ Perimeter Security

**IP address and port filtering**

**NAT/ DMZ**

**VPN:** L2TP, PPTP, SLIP, VLAN, IPsec, OpenVPN, GRE\*, NHRP\*, DMVPN\*

### Management & Security

**Security:** HTTPS, SSH, SFTP

**Basic Web UI Module (Webmin):** PPP/PPPoE Dial up, Configure file management, DHCP Server, Initial System Boot up, Firewall, Network Configuration, Scheduled Jobs, System Logs, System Time, User account manager  
Webmin configure

**Extensible for other proprietary Web UI modules:**

Routing, NAT, Switch, DIO, Serial

**Extensible for other standard Web UI (webmin) modules**

**Linux shell access via TELNET connection or console port**

**SNMP v1, v2c, v3:** MIB and traps

MIB-II, Bridge MIB, Ethernet-like MIB, VLAN MIB

**Proprietary SNMP MIB sample code**

**NTP** for time management

### Technology

**Standard:**

IEEE802.3 10Base-T Ethernet

IEEE802.3u 100Base-Tx Fast Ethernet

IEEE802.3x Flow Control and Back-pressure

IEEE802.1p Class of service

IEEE802.1Q VLAN

**Processing:** Store and Forward architecture

**Packet filter:** Broadcast packet filtering

\*Optional

## Linux Specifications

### Embedded Linux

**Bootloader:** JetBox bootloader

**Linux Kernel:** 2.6.20

**Shell:** GNU ash

**File system:** jffs2, NFS, Ext2, Ext3, VFAT, FAT

**Device drivers:** SD card, CF card, USB, Watchdog timer, UART, Ethernet, DIO

**Protocol:** ARP, PPP, CHAP, IPv4, IPv6, PAP, ICMP, TCP, UDP, NFS, RIP, RIP-II, OSPF, ISIS\*, BGP\*, DVMRP, L2TP, PPTP, SLIP, VLAN, IPsec, OpenVPN

**Software packages:** busybox (telnetd, inetd, udhcp), e2fsprogs, i2c-tools, ltp-testsuite, microcom, mtd, pciutils,

usbmount,usbutils, bridge-utils, ethtool, iptables, net-snmp, ntp, openssh, openssl,openVPN, openSWAN, pppd, pptp-linux, proftpd, samba, smtpclient, bind, l2tp, mrouted, quagga, wireless-tools, jamvm, syslogd, udhcp, setserial, goahead web server

**Korenix Linux auto-run function**

Customized configuration

Process monitoring

### SDK

**Linux tool chain:** Gcc(C/C++ PC cross compiler), uClibc

**Linux sample code**

## Ordering Information

**JetBox 9432-w Intel IXP435 667MHz, 12~48V DC, 128MB DDR2 RAM, 4 serial, -40~80°C**

Includes:

- JetBox 9432-w
- Console cable x1
- Attached 2-pin power terminal block
- Attached 5-pin DIO terminal block x2
- Attached blanket to cover SD card slot
- Attached nameplate to cover CF card slot
- Quick installation guide
- Documentation and software CD-ROM

## Optional Accessories

- Additional applications on CF card: CF card capacity is 2G  
CF2G-L-J     Webmin UI for Linux  
CF2G-LM-J     Webmin UI & Modbus gateway for Linux
- 802.11g wireless dongle
- Serial Cable  
CM37M9x4-60 4-port male DB37 to male DB9 connection cable, 60cm  
CM37M25x4-60 4-port male DB37 to male DB25 connection cable, 60cm

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